

MIAMI BEACH

OFFICE OF THE CITY MANAGER

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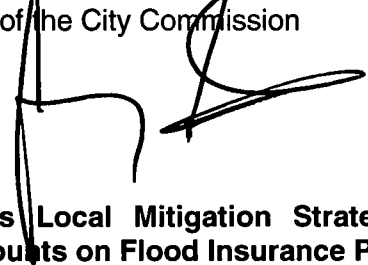
LETTER TO COMMISSION

TO: Mayor Phillip Levine and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: October 24, 2016

SUBJECT: **Progress Report on the City's Local Mitigation Strategy Projects relative to Property Owner Discounts on Flood Insurance Premiums**



Introduction and Background

The purpose of this Letter to Commission is to provide the Mayor and Commission with a progress report on the City's Local Mitigation Strategy (LMS). The LMS is one of the activities that will result in a discount of up to 20% on flood insurance premiums for residents and businesses in our city.

The primary goal of the LMS is to reduce vulnerability to natural, technological, and societal hazards from all sources, but especially from hurricanes, tornadoes, floods, and other severe weather events. The City's participation in the LMS Program improves its standing and classification in the Community Rating System (CRS), making flood insurance under the National Flood Insurance Program more affordable.

The City is preparing a full Repetitive Loss Analysis, which is an important component to improve the City's CRS score and ultimately increase the discount on flood insurance premiums for residents and businesses in our City.

Program Continuity and Strategy to Inform the Public

City staff members attend the Miami-Dade County Local Mitigation Strategy meetings once each calendar quarter and review the latest published version of the LMS. Meeting times, dates, and locations are posted on the Miami-Dade County LMS website at www.miamidade.gov/oem/lms.asp.

This Letter to Commission will be posted on the City's internet and made available to the public through the City Clerk's Office.

The progress report on the projects listed in the City's Local Mitigation Strategy is provided below along with a listing of the projects completed since 2005.

Flooding: Drainage Improvement Projects

Flooding has a significant environmental, health, and economic impact, causing businesses to be inaccessible to customers and resulting in the additional cost of replacing and repairing damaged property. In addition, due to high groundwater elevation, drainage is slow in certain areas, requiring extensive periods of time to dissipate. This has caused some paved roads to deteriorate and/or fail, resulted in the creation of mosquito breeding areas, and intensified other public health issues. In response to this, the city has changed the stormwater criteria and required all existing projects to be brought up to the 2.7' NAVD boundary condition. The city's comprehensive program of drainage improvement projects will alleviate chronic neighborhood flooding situations.

Sunset Harbor Pump Station Upgrades and Drainage Improvements: During the construction of the stormwater system upgrades, the City determined that the project should be expanded to include raising the road elevation/improving the storm drainage system in the entire neighborhood. This project will provide a higher level of storm water service to the Sunset Harbor neighborhood. Phase II of the project aims to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: The stormwater collection system and road-raising is nearing completion with expected substantial completion anticipated by the end of 2016.

La Gorce Neighborhood Drainage Improvements: The purpose of this project is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: A design criteria package is being developed for the selection of a design-build firm.

West Avenue Neighborhood Drainage Improvements: Drainage improvements for West Avenue (5th to 8th Street) as well as 10th, 14th, and 17th Streets (Alton Road to West Avenue) consist of new pump stations, additional drainage collection, conveyance, treatment, and disposal facilities. This drainage project will mitigate street-level flooding and reduce residential/commercial flooding concerns.

Status: The project is under construction with anticipated completion by the end of 2016.

Indian Creek Drive 25th to 41st Street Drainage Improvements: Construction consists of drainage improvements, seawall construction, a pump station as well as road raising on Indian Creek. The project includes construction of new catch basins and outfalls with associated piping. The stormwater will be treated using vortex structures and stormwater pump stations.

Status: The project is in the pre-construction phase as part of a partnership with FDOT.

Middle North Bay Road Drainage Improvements: This project addresses numerous resident complaints and staff observations regarding a low stormwater service level in the neighborhood. Drainage improvements would include pump stations as well as additional drainage collection, conveyance, treatment, and disposal facilities to serve the entrance to Mt. Sinai as well as Middle North Bay Road neighborhood.

Status: Phase I of the Request for Qualifications is currently underway.

Flamingo Park– Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Lower North Bay Road – Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This project is complete.

Sunset Islands 3 & 4 – Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: The overall project is approximately 40% complete. The project is scheduled for substantial completion in Spring 2017.

Venetian Islands – Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices); 2) Construct water quality treatment devices; and 3) Construct pump stations, controls, and force mains.

Status: This project is under construction and scheduled for substantial completion in Spring 2017.

Palm & Hibiscus Islands – Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This project is under construction and scheduled for completion in Fall 2017.

Lincoln Road Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of improving surface drainage.

Status: This project is in the design phase.

Biscayne Pointe – Neighborhood Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, 6) Convert existing pumping stations discharge piping from injection wells and add force mains to new outfall, and 7) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

South Pointe – Neighborhood Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, 6) Convert existing pumping stations discharge piping from injection wells and add force mains to new outfall, and 7) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This project is in the planning stage.

Normandy Isle South – Neighborhood Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Normandy Shores – Neighborhood Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Nautilus – Neighborhood Improvements: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, 6) Convert existing pumping stations discharge piping from injection wells and add force mains to new outfall, and 7) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Central Bayshore – Neighborhood Improvements (34th Street North): The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system, and reduce reliance on gravity or pressurized drainage (injection) wells. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, and 3) Repair, replace, and/or install collection systems, catch basins and manholes.

Status: This project is complete.

Central Bayshore – Neighborhood Improvements (34th Street South): The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, and 5) Construct pump stations, controls and force mains.

Status: This project is scheduled to begin in December 2016..

City Center – Neighborhood Improvements: The purpose to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of the construction of two pump stations to serve the Convention Center and portions of the neighborhood.

Status: The pump station at Washington Avenue is under construction. The pump station for 19th Street is in the procurement process. Additional stormwater system improvements along Washington Avenue, 17th Street and Convention Center Drive are in the design phase.

North Shore – Neighborhood Improvements: The purpose is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Repair, replace, and/or install curbs and gutters, 2) Reconstruct and/or raise streets and sidewalks, 3) Repair, replace, and/or install collection systems, catch basins and manholes, 4) Construct water quality treatment devices, 5) Construct pump stations, controls and force mains, and 6) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This project is in the planning stage.

Star Island – New Pump Station: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Construct additional stormwater collection system piping to interconnect existing pipe networks, 2) Construct water quality treatment devices, 3) Construct pumping stations, controls and force mains, and 4) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices)

Status: This is a future project.

Sunset Islands 1 & 2 – New Pump Stations: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system. The improvements consist of one or a combination of the following: 1) Construct additional stormwater collection system piping to interconnect existing pipe networks, 2) Construct water quality treatment devices, 3) Construct pumping stations, controls and force mains, and 4) Repair or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Belle Island – New Pump Station and Existing Pump Station Conversion: The purpose of the project improvements is to provide a higher level of service defined by flood protection and control of pollutant loading in the stormwater system, and reduce reliance on gravity or pressurized drainage (injection) wells. The improvements consist of one or a combination of the following: 1) Construct additional stormwater collection system piping to interconnect existing pipe networks, 2) Construct water quality treatment devices, 3) Construct pumping stations, controls and force mains, 4) Convert existing pumping stations discharge piping from injection wells and add force mains to new outfall, and 5) Construct new outfall and/or upgrade existing outfall pipes and seawalls (inclusive of tidal backflow prevention devices).

Status: This is a future project.

Flood Proofing Sewer and Pump Stations: Relining and sealing 31 pump stations and 500 manholes throughout the city to prevent water intrusion—which would damage pump station equipment/structures—and failure of stations, thereby avoiding flooding. In the past, five pump stations have failed during storms and resulted in flooding.

Status: Construction is ongoing.

48" Outfall at Easement 4180–4200 Chase Avenue: Improvements include building a new 48" outfall and installing approximately 450 linear feet of 48" HDPE pipe, one manhole, and one catch basin. When completed, this project will produce a stormwater system capable of providing a high level of service in the area.

Status: This is a future project.

Stormwater Outfall and Seawall Reconstruction: Replacement of seawalls and 150 stormwater outfalls with associated relining of piping leading to outfalls in areas that have three properties with repetitive flood claims. Project will also include a pollution control device and possible demolition of existing seawalls, repair of seawalls, and relocation of riprap.

Status: Seawalls are under construction along Dade Boulevard/Collins Canal. Additional seawalls on the priority list are in the design and bidding phase of construction.

Drainage Hot Spots: This project will provide localized stormwater improvements that address drainage "hot spots" within the City. The project will provide funding to allow City staff to design, contract for, and implement solutions to limited areas of the City which are within the definition of the projects approved by the City Commission in the Resolution authorizing issuance of the Series 2015 Bonds, but not incorporated into other neighborhood improvement projects identified in the Stormwater Program.

Status: This is an ongoing construction project.

Citywide Home Elevations: The project will assist eligible homeowners to elevate their properties in order to mitigate flooding. The project will also encourage homeowners to become more resilient and to incorporate climate change considerations in their home improvement projects. It will also promote the inclusion of mitigation strategies that foster community resilience against flooding risks.

Status: This is a future project.

Citywide Tidal Flooding Mitigation: The purpose of the project improvements is to prevent the backflow of water from the Biscayne Bay into the City's stormwater management system and up through the stormwater inlet grates flooding the roadway curb and gutter. This tidal flooding poses a threat to public health and safety, inconveniences the public, and has caused major damage to structures, and killed lawns and landscaping. In addition, tidal flooding saturates the base structure of roadways causing failure of roadways prior to their expected useful design life. This project consists of the installation of backflow prevention valves (aka "Tideflex" valves) on a majority of the PSMS outfalls to the Biscayne Bay and in the lowest lying areas of the City.

Status: This project is under construction.

Citywide Wastewater Infrastructure Improvements: The wastewater lines are approximately 50-80 years old. The iron pipes are increasingly brittle, resulting in hydraulic problems and potential failures. The useful life of these force mains is approximately 50 years and the pipes are either at the end of or beyond their useful life. This project will implement the city's Wastewater System Master Plan, which will replace aging lines that are 60 years old or more.

Status: This is an ongoing project.

Citywide Water Infrastructure Improvements: The project includes the replacement of aging water lines (60+ years old). These iron pipes are significantly tuberculated which has resulted in diminished water quality and hydraulic problems. This project is fully programmed through neighborhood projects and other projects in the City's 5-year Capital Improvement Plan, subject to appropriation of additional programmed funding.

Status: This is an ongoing project.

Citywide Dune Restoration & Enhancement Project: This project seeks to restore the City's coastal dune system by removing non-native vegetation, planting native species, and selectively trimming native vegetation. This project will improve the overall health and stability of the dune system so it is best suited to retain sand and protect upland structures from storm surge and flooding. The project will also install a rope and post fence system around the dune system to protect the project's results and minimize trampling impacts to the protected area. Educational signage will educate visitors about the structure of the dunes, their importance, and the vegetation housed therein.

Status: On-going (maintenance and monitoring).

Windstorm

Storm Shutters and Protective Glass for City Buildings: The city is a barrier island that is subject to high winds, missile hazards and significant impact damage. The buildings listed below require protection for windows during a significant weather event.

Status: Refer to the below for project statuses:

Building Name	Location Address	Status
Miami Beach Botanical Garden	2000 Convention Center Drive	In the Planning Phase
Mount Sinai Hospital	4300 Alton Road	Future Unfunded Project
North Shore Park & Youth Center	501 72nd Street	Future Unfunded Project
Log Cabin	8128 Collins Avenue	Future Unfunded Project

Other Hazards

Acquisition of Emergency Generators: Acquisition of emergency generators to ensure continued operation of critical city facilities/systems and the appropriate levels of service for city residents during and after a disaster event.

Status: This project is ongoing.

West Avenue Bridge: The project is of regional significance and will help relieve congestion on State road 907 (Alton Road). A connected West Avenue would help reduce the volume of local traffic at the busiest intersections. In addition, it would provide a safer venue for cyclists, pedestrians, and motorists making their way to the causeway to Miami, than other existing venues.

Status: The project has been awarded and is in the design phase.

Streetlight System Upgrade: There are approximately 8,400 streetlight poles located throughout the City. Public Works is in the process of developing street lighting standards that will be used to upgrade the street lights when neighborhoods are reconstructed or insufficient lighting is addressed. Standards will be developed for average street lighting as well as individual fixtures. Lighting upgrades will also be in response to Police Department requests to combat crime and illegal activities.

Status: The City has completed a citywide photometric analysis and is developing plans for strategic enhancements.

Portable Traffic Light Signals: During power outages, the traffic lights are inoperable, causing a potential hazard. Portable traffic signals will provide the safety that is needed for traffic control. The city anticipates that it will need ten portable traffic signals to adequately handle an emergency situation.

Status: This is a future project.

Construction of new Fire Station #1: Intensive maintenance is required to continue operating the Fire Station as it exists today. This maintenance includes costs that over time could exceed the cost of full demolition and reconstruction of all facilities on site. Existing parking conditions are less than ideal, frequently limiting building occupants from securing parking. The existing FEMA flood elevations also indicate that under severe storm events, the Fire Station would become inaccessible and would prevent emergency assistance to the surrounding Miami Beach community. The City facilitated an in-depth assessment of the Fire Station, and upon evaluation of the current site conditions and minimum code requirements, full site reconstruction and demolition of existing structures (including relocation of the existing pump station) were recommended in order to mitigate potential severe hazards and provide the public with the highest level of services.

Status: This is a future unfunded project.

Recommendations:

1. The City will continue to participate in Miami-Dade County's LMS program and monitor the projects, as needed.
2. The City will continue to have various outreach projects to inform the residents and visitors about hurricanes and floods preparedness and safety.

Please contact me if you need any additional information.

JLM/EC/DM/CGR/JH/CH
Attachment

Attachment 1 (Page 1)

Local Mitigation Strategy Projects Completed Since Fiscal Year 2004/2005

FY 2004/2005

1. Bay Road Streets/Sidewalks Improvements (14th to 16th Streets)

FY 2006/2007

1. Bay Road Drainage Pump Station C-level of service-out
2. Flamingo Box Culverts BP 10A
3. Flamingo Lummus BP 10D Streets/Sidewalks Improvements (Washington Avenue)
4. Miami Beach Golf Course—Drainage Well

FY 2007/2008

1. 7th & 8th Streets (BP-10B) Streets/Sidewalks Improvements
2. 16th Street Drainage Improvements
3. Flamingo Lummus BP 10B Streets/Sidewalks Improvements
4. Oceanfront BP 6 Streets/Sidewalks Improvements: Phase I
5. Stormwater System Prairie Avenue
6. Venetian Islands BP 13B—Belle Isle Streets/Sidewalks & Park Improvements

FY 2008/2009

1. 8th Street Spot Flooding Remediation (Hot Spot)
2. Flamingo Neighborhood (Lennox & 6th) Bid Pack 1A

FY 2009/2010

1. 69th Street from Biscayne Bay to Collins
2. Normandy IsleSud BP 4 Streets/Sidewalks Improvements
3. Oceanfront BP 6 Streets/Sidewalks—Phase 1B—40th Street & Collins Avenue

FY 2010/2011

1. Drainage Improvements West 44th Street & Royal Palm
2. Nautilus BP 7 Streets/Sidewalks Improvements
3. Normandy Shores BP 3 Streets/Sidewalks Improvements
4. Oceanfront BP 6 Streets/Sidewalks Improvements: Phase II
5. South Pointe Streetscape Phase II BP 12C Streets/Sidewalks Improvements
6. Stormwater Pipe—Repairs
7. Sunset Islands 1 & 2 Replacement of Two Outfalls
8. Biarritz and Rue Granville
9. Prairie Avenue

FY 2011/2012

1. Waterways Dredging
2. North Bay Road & 4th Street—Drainage Hot Spot
3. Washington Court, Between Washington Avenue & Park Avenue

Attachment 1 (Page 2)

FY 2012/2013

1. Extensive Repairs to Seawalls–Wofford Park Seawall Repairs
2. Sunset Islands I & II Drainage Improvements
3. South Pointe II Drainage Improvements

FY 2013/2014

1. Parkview Canal Seawall Revetment
2. Belle Island Outfall Replacement
3. Star Island Drainage Improvements
4. City Center–Historic District Drainage Improvements
5. Regional Communication/Command Van
6. Lake Pancoast Right-of-Way Improvements
7. Biscayne Point Right-of-Way Improvements

FY 2014/2015

1. Central Bayshore Right-of-Way Improvements
2. South Pointe III, IV, V Right-of-Way Improvements
3. Crespi Blvd Drainage Emergency Improvement/Water Main Replacement-79th Street to 85th Street

FY 2015/2016

1. Lower North Bay Road – Neighborhood Improvements
2. Central Bayshore Neighborhood – 34th Street North